

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-24 (Canceled).

Claim 25 (Currently Amended): The display apparatus according to claim 22, A display apparatus capable of detecting that an arbitrary place of a display screen has been pointed by a human hand or a pointing member, the display apparatus comprising:
display elements formed near intersections of signal lines and scanning lines respectively arranged in vertical and horizontal directions;
image pickup units which pick up incident light in a predetermined range;
D/A conversion circuits provided every a plurality of signal lines to supply pixel data for display to a plurality of signal lines associated therewith;
amplifier circuits which output the picked-up image data in the image pickup units from pixels by using signal lines that are not supplied with pixel data, while the D/A conversion circuits supply pixel data to signal lines in order; and
a pointer detection portion which detects a position pointed by a hand or a pointing member on the display screen, on the basis of the picked-up image data,
wherein whenever the image pickup units perform image pickup, the pointer detection portion detects an image that indicates a pointed position, and when a diameter of the image is maximized, the pointer detection portion judges that the display screen has been pressed strongly by a hand or a pointing member.

Claim 26 (Currently Amended): The display apparatus according to claim 22, A display apparatus capable of detecting that an arbitrary place of a display screen has been pointed by a human hand or a pointing member, the display apparatus comprising:

display elements formed near intersections of signal lines and scanning lines
respectively arranged in vertical and horizontal directions;
image pickup units which pick up incident light in a predetermined range;
D/A conversion circuits provided every a plurality of signal lines to supply pixel
data for display to a plurality of signal lines associated therewith;
amplifier circuits which output the picked-up image data in the image pickup units
from pixels by using signal lines that are not supplied with pixel data, while the D/A
conversion circuits supply pixel data to signal lines in order; and
a pointer detection portion which detects a position pointed by a hand or a pointing
member on the display screen, on the basis of the picked-up image data,
wherein the pointer detection portion performs a plurality of product sum computations for successively adding image data of every scanning line, and a division computation conducted using a result of the product sum computations as a numerator or a denominator.

Claim 27 (Original): The display apparatus according to claim 26, comprising:
a first computation circuit formed on the substrate on which the display elements are formed to conduct the product sum computations; and
a second computation circuit formed on a semiconductor substrate different from the substrate on which the display elements are formed to conduct the division computation.

Claim 28 (Currently Amended): The display apparatus according to claim 22, A
display apparatus capable of detecting that an arbitrary place of a display screen has been
pointed by a human hand or a pointing member, the display apparatus comprising:

display elements formed near intersections of signal lines and scanning lines
respectively arranged in vertical and horizontal directions;
image pickup units which pick up incident light in a predetermined range;
D/A conversion circuits provided every a plurality of signal lines to supply pixel
data for display to a plurality of signal lines associated therewith;
amplifier circuits which output the picked-up image data in the image pickup units
from pixels by using signal lines that are not supplied with pixel data, while the D/A
conversion circuits supply pixel data to signal lines in order; and
a pointer detection portion which detects a position pointed by a hand or a pointing
member on the display screen, on the basis of the picked-up image data, wherein
denoting the number of pixels in a signal line direction of the display screen by X, the
number of pixels in a scanning line direction by Y, and the picked-up image data in an
arbitrary pixel (x, y) (where $0 \leq x \leq X$ and $0 \leq y \leq Y$) by $L(x, y)$,
the pointer detection portion obtains central coordinates (Ex , Ey) of the hand or
pointing member using expression (17), and obtains widths (Vx , Vy) of the hand or pointing
member in the x direction and y direction using expression (18).

$$Ex = \frac{\sum_{y=0}^{239} \sum_{x=0}^{319} xL(x, y)}{\sum_{y=0}^{239} \sum_{x=0}^{319} L(x, y)} \quad Ey = \frac{\sum_{y=0}^{239} \sum_{x=0}^{319} yL(x, y)}{\sum_{y=0}^{239} \sum_{x=0}^{319} L(x, y)} \quad (17)$$

$$Vx = \frac{\sum_{y=0}^{239} \sum_{x=0}^{319} (x - Ex)^2 L(x, y)}{\sum_{y=0}^{239} \sum_{x=0}^{319} L(x, y)} \quad Vy = \frac{\sum_{y=0}^{239} \sum_{x=0}^{319} (y - Ey)^2 L(x, y)}{\sum_{y=0}^{239} \sum_{x=0}^{319} L(x, y)} \quad (18)$$

Claim 29 (Original): The display apparatus according to claim 28, wherein the picked-up image data is a picked-up image subjected to image processing.

30 (Canceled).